NATURAL RESOURCES CONSERVATION SERVICE
CONSERVATION PRACTICE STANDARD

VEGETATIVE BUFFER STRIP

(acre)
CODE 741 CA INTERIM

DEFINITION

A crop of close growing grasses legumes or small grain grown in a strip or band primarily for seasonal protection. It usually is grown for one season, except where there is a permanent strip as in cropland on sloping land.

PURPOSES

To reduce wind and water erosion during periods when the major crops do not furnish adequate cover.

CONDITIONS WHERE PRACTICE APPLIES

Irrigated and nonirrigated cropland includes orchard, vineyard, and small fruit areas.

CRITERIA

Grazing can be allowed provided it will not jeopardize stand longevity and is needed for most perennial species.

Buffer strips on wind eroding fields need to trap incoming saltating soil particles and create a stable area. This allows a reduction in the WEQ unsheltered distance factor L. Small grains and alfalfa are two examples of suitable plants.

Buffer strips on sloping land subject to rainfall runoff erosion need to reduce the velocity of sheet flow. This allows a reduction of support practice factor "P" on slopes up to 24 percent when applying the USLE or RUSLE.

When seeding grasses, apply Nitrogen at the rate of 40 pounds per acre.

When seeding legumes, apply Available Phosphoric Acid at the rate of 50 pounds per acre. This is equivalent to 22 pounds per acres of Phosphorus.

When soils are coarse sandy, gravelly or granitic, fertilizer rates can be reduced 50 percent.

When planting perennial grasses alone, do not fertilize at planting time. When planting a mixture of perennial and annual grasses, reduce the fertilizer rate by 50 percent.

When fertilizer rates are reduced or when perennials are not fertilized, the balance of the fertilizer needs to be applied at the beginning of the next growing season.

Seeding mixtures and rates shall be in conformance with the respective MLRA Vegetative Guide in the Field Office Technical Guide.

Based on bag tags, adjust seeding rate to insure at least 90 percent pure live seed (germination x purity). Do not include any hard seed in the percent germination.

When coated seed is used, adjust seeding rate to compensate for the weight of coating.

Control of noxious weeds by mowing should be evaluated as an alternative to use of herbicides.

When plantings are to be irrigated, maintain adequate moisture in the upper six (6) inches of soil during the first four (4) weeks and then in the upper 12 inches thereafter until the rainy season during the establishment period.

CONSIDERATIONS

This practice includes short term, temporary vegetative cover as well as long term, perennial and establishment or reseeding annual cover crops. Selected species must be compatible with the planned management system.

Locally adapted species can be identified with one or more of the following management systems.

Seasonal buffer strips - Plants provide short-term cover and are generally grown in the interval between main crops. Plants are harvested or disked under after the critical erosion period. Choose species that will decompose rapidly and/or not interfere with growing the next crop.

Permanent buffer strips - Plants provide long term cover on lands for several years and are not managed as natural stands without tillage. Wildlife needs should be considered when selecting plants. Control of noxious weeds may require mowing parts of the field for a few seasons. Limited grazing is controlled to insure longevity of the stand.

Since most California soils are low in Sulfur, preference should be given to fertilizers with this element. Ammonium Phosphate Sulfoxide 16-20-0 contains 15 percent sulfur and is the preferred fertilizer when mixtures of grasses and legumes are being seeded.

The horizontal indentations left by tracked equipment provides a suitable seedbed on steep slopes.

Legume species provide soil nitrogen. Annual species that provide erosion control should be capable of rapid and vigorous establishment.

Minimum width required is 12 feet but can be expanded to 66 feet (one chain) or more where the person desires to use the buffer strip for set aside purposes.

Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels, and rearing of young may preclude activities in the stream that may directly affect the stream habitat during those periods. For example there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Water Quantity

This practice may reduce the amount of surface runoff, may increase infiltration, and may increase the quantity of water available for percolation to the ground water. The base flow in nearby streams may be extended.

1. Effects on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, deep percolation and ground water recharge.

2. Variability of effects caused by seasonal weather variations.

3. Potential for a change in plant growth and transpiration because of changes in the volume of soil water.

Water Quality

This practice may reduce erosion and the amount of sediment and related substances delivered to the surface waters. The practice may increase the amount of water that infiltrates into the root zone, and, at the time there is an overabundance of soil

water, this water may percolate and leach soluble substance into the ground water.

1. Filtering effects of vegetation on movement of sediment and dissolved and sediment-attached substances.

2. Effects on erosion and the movement of sediment, pathogens, and soluble and sediment-attached substances that could be carried by runoff.

3. Potential for development of saline seeps or other salinity problems resulting from increased infiltration near restrictive layers.

4. Effects on the visual quality of downstream water resources.

PLANS AND SPECIFICATIONS

Plans and specification will be prepared in keeping with the intent and purposes of this practice.

On sloping land when crop residue are present or will result from the existing or planned crop, minimize seedbed operations to maintain adequate residues on the surface for protecting the new planting. When available, also specify a no-till drill or similar seed drill be used. Do these on the Practice Requirements sheet.

On fields judged to contain a good seed supply of desirable species, do not specify any seeding mixture on the Practice Requirements sheet. Fertilizer must still be specified on the Practice Requirements sheet when judged to be needed for stand establishment after giving consideration for any fertilizer carry over from the previous crop.

Minimum width is 12 feet. Specify the width of the buffer strip and the approximate location in each field. Use an attached drawing if necessary to help locate the buffer strips in the field.

On sloping fields, locate the buffer strip approximately midway down the major slope (especially the nose slopes) with a best fit across the intervening slope areas.

OPERATION AND MAINTENANCE

Buffer strips can be relocated from time to time to be just above or just below the original strip to minimize any slope changes due to farming around the strip.

Any special maintenance needed for the species of plants being planted are to be listed on the Practice Requirement sheet.

Periodic fertilization should be identified and may be satisfied by applying fertilizer used on adjacent crops.

Overseeding permanent buffer strips when the regular crop is planted can also be specified to maintain the stand.

After plants are established, maintain adequate soil moisture in the rooting zone to produce healthy plants. Maintenance the stand may require some irrigation.